Making citizen science accessible and productive for young volunteers: Lessons learnt from a 3-year study of Zooniverse.

Conference or Workshop Item

Young Volunteers and Online Citizen Science

Herodotou C., Ismail N., Aristeidou M., Miller G., Robinson L., Ballard H. (2021)

Learning as Environmental Science Agency (ESA) | Settings: Zooniverse; online | Sample: 7-19 years old

Data: 232 log files, 64 survey responses, 38 in-depth interviews

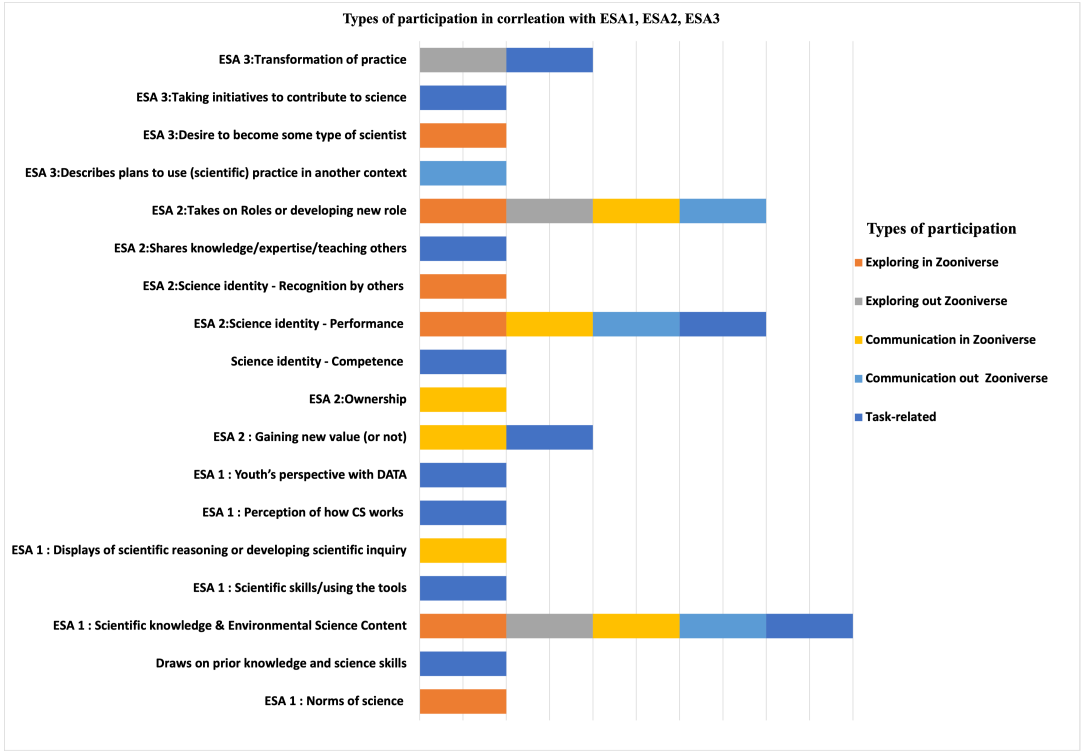
What do young people report they learn in Zooniverse projects?

ESA1 – norms of science/ how data are used:
"To my understanding with Penguin Watch, citizen science is to have a lot of volunteers go over the same images and count the number of penguins in each image, and then they use that data to figure out breeding and population patterns throughout the season."

ESA2 – developing expertise/confidence/taking on a new role:
"I got better especially in the animals one. I was picking up variations in animals. Before doing it, my knowledge of animals out there was very limited to what was around me in Australia. By doing this, I went there's a whole world of animals out there and what they look like and how to tell them apart from the each other. I can pick them up pretty quickly now."

ESA3 – developing agency/intention to contribute to science:
"I'm excited to explore the platform more and obviously I do want to work on projects and I would like to also start one in the future because I really love how the platform gives you the chance to start a project."

How does participation enable learning?



Who are the young people who report learning benefits?

- **"Visitors" - no systematic participation**
- **Older, white youth (16-19 years old)**
- **Significant science capital**
- **Science capital significantly related to presence/absence and strength of ESA.**

Presence of ESA1 significantly related to "like learning science out of school" (r_s=.383, p<.01).

Presence of ESA2 related to visiting online science platforms (r_s=.311, p=.05), museums etc (r_s=.303, p=.05), going outdoors (r_s=.334, p<.01) and 'like learning about science' (r_s=.387, p<.01).

The more the ESA expressions reported, the more participants talked about science out of school (r_s=.351, p<.01), visiting museums etc (r_s=.494, p<.01), and going outdoors (r_s=.277, p=.05).

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